

Serial No. 09/991,568

#### REMARKS

##### TELEPHONE INTERVIEW:

Applicant thanks the Examiner for the courteous telephone interview discussing the status of the claims and further response to the issue of "non-elected" subject matter.

##### PETITION FOR EXTENSION OF TIME:

A petition for an extension of time of one month is enclosed.

##### STATUS OF THE CLAIMS:

This amendment is responsive to the Official Action dated March 10, 2004.

Claims 1-34 are in the application.

Claims 1-29 are canceled.

Claims 30-34 were indicated in the October 13, 2003, and March 10, 2004 Official Actions as being withdrawn, leaving no claims pending in the application.

By way of this amendment, the Applicant has amended claim 30.

Accordingly, claims 30-34 are currently pending.

##### RESPONSE TO AMENDMENT:

The Application was originally filed with claims 1-29 of which claims 1 and 16 were the only independent claims.

On August 2, 2002, the Examiner required a restriction of the invention as follows:

Species 1 – Claims 1-15, pertaining to a method for burning in a wafer having one electrode.

Species 2 – Claims 16-29, pertaining to a method for burning in a wafer having more than one electrode.

On September 11, 2002, Applicant's counsel elected Species 1 (claims 1-15) for further prosecution.

On May 22, 2003, the Examiner issued a First Official Action on the merits substantively rejecting claims 1-15 on the basis of prior art.

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On August 20, 2003, Applicant filed a response to the Action and an amendment canceling claims 1-29 and adding new claims 30-34.

The amendment filed on August 20, 2003 was deemed by the Examiner to be "not fully responsive" because the Applicant had cancelled all previously examined claims which were drawn to a method for burning in a wafer having an insulator layer forming one surface and a plurality of active devices each having a first and second electrode, and the Applicant had added new claims 30-34 drawn to a separate and distinct invention pertaining to a method of burning in active surface emitting laser devices.

A response was filed on November 24, 2003 attempting to explain that the scope of the claims was consistent with the originally filed claims, and that the response should be entered.

The reply filed on November 24, 2003 was also deemed to be non-responsive and insufficient to explain the relationship of the new claims to the previously elected subject matter.

In the telephone interview, the Examiner indicated that a more thorough explanation and correlation of the claim elements would be required before the Amendment would be considered as responsive. The remarks below will attempt to point out how the new claim 30 is consistent in scope with the originally filed claim 1.

In reviewing the comments below, please also take into account that claim elements were added to distinguish the claim from the prior art cited in the May 22, 2003 Official Action.

| New claim 30   | Original Claim 1   | Explanation  |
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| 30. A method of simultaneously burning in a plurality of active semiconductor surface emitting laser devices on a wafer comprising the steps of: | 1. A method for burning in a wafer having an insulator layer formed on one surface and a plurality of active devices, each device having a first and second electrode, comprising: | *When someone refers to "burning in a wafer" the process is actually burning in the individual devices formed on the wafer. The Applicant chose the new language "burning in the devices on the wafer" to more accurately reflect the process. |

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| <p>providing a wafer having a plurality of active semiconductor surface emitting laser devices formed thereon, each of said laser devices having a first electrode on a first side of the wafer and a second electrode on a second side of the wafer;</p> |  | <p>"The original claim 1 recited a "plurality of active devices". The new language in claim 30 recites "a plurality of active semiconductor surface emitting laser devices". "Active semiconductor surface emitting laser devices" is considered to be a narrower species of "active device" as originally recited, and should be considered as consistent with the elected subject matter. Furthermore, the entire specification refers to burning in a wafer of VCSEL devices. Finally, the narrower language is believed to be required in view of the prior art cited by the Examiner. The Applicant was attempting to limit the claim language responsive to the prior art rejection</p> <p>The added step of providing the wafer with the active devices is included both for proper antecedent basis as well as to properly define the method as described in the specification. The wafer (and devices) that is to be "burned in" is defined in claim 30 as having a plurality of "active devices", each active device having a "first electrode on a first side and a second electrode on a second side." The original claim 1 merely recites that the "active devices" have a first and second electrode. The new language</p> |
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| <p>depositing a temporary insulating layer on a first side of said wafer;</p> <p>selectively forming vias through said insulating layer to expose said first electrode of at least two of said plurality of laser devices;</p> |  | <p>in claim 30 more narrowly defines that a first of the electrodes is on one side and that the second of the electrodes is on a second side.</p> <p>Original claim 1 identified an "insulator layer" in the preamble. The "insulating layer" was removed from the preamble and moved to an active step in the method as this more accurately reflects the subject matter disclosed in the specification, and more narrowly defines the invention in light of the cited prior art. However, the limitation is the same. Claim 1 has the limitation in the preamble and then recites the step of forming the conductive interconnect layer. The present claim 30 actively deposits the insulating layer and then deposits the interconnect layer. In both claims the insulator layer is present on the wafer before the interconnect layer is formed. New claim 30 also adds the limitation that the layer is temporary, as it is removed in a later step.</p> <p>Claim 1 did not include this step. However, forming the vias is a narrow sub-step of "forming the conductive interconnect layer" as recited in claim 1. (for the interconnect layer to interconnect the electrodes there must be vias formed in the insulator layer). This narrower</p> |
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| <p><b>depositing a temporary electrically conductive interconnect layer</b> over said insulating layer whereby <b>said first electrodes of said at least two of said plurality of active laser devices are coupled together to provided with a common electrical contact:</b></p> | <p><b>forming a conductive interconnect layer</b> adjacent said insulator layer, wherein said conductive interconnect layer <b>electrically couples together at least the first electrode of at least a portion of the active devices.</b></p> | <p>sub-step step was added to distinguish the claim from the cited prior art.</p> <p>Original claim 1 broadly recites the step of "forming a conductive interconnect layer". New claim 30 more narrowly recites that the conductive interconnect layer is "electrically" conductive, and further that it is "temporary", as this layer is removed in a later step. This is a narrower limitation of the broader step of forming. Original claim 1 recites that the layer is adjacent the insulator layer. Adjacent is broader than the term "over" as recited in new claim 30. Old claim 1 recites that the interconnect layer electrically couples the first electrode of at least a portion the active device together. New claim 30 states that the interconnect couples the first electrodes of at least two of the devices. This is believed to be the same limitation.</p> <p>Accordingly, the new claim 30 includes all of the limitations of original claim 1 and in addition includes numerous narrowing amendments to better define the invention and to distinguish it from the prior art.</p> |
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| <p><b>applying a predetermined power</b> to said interconnect layer whereby <b>said predetermined power is simultaneously applied</b> to said first electrodes of said at least two of said plurality of active laser devices;</p> | <p>(original claim 2 -- coupling said wafer to a test apparatus, coupling at least one test probe to said conductive interconnect later and <b>simultaneously applying a predetermined power</b> to each of the active devices in said portion of the active devices. )</p> | <p>New claim 30 even further has been amended to include limitations from original dependent claims 2, 4, 6, 11, 13 and 15. See the comparison below as outlined further in chart.</p> <p>New claim 30 recites that the method includes "applying a predetermined power to the interconnect layer" as was previously found in original claim 2 of the application. This new language identifies the same "method of applying power" but does not limit the application of power to "coupling to a test apparatus". In light of the host of other limitations added the claims, the specific application of power by means of a test apparatus and a test probe was not believed to be critical to the method. In the context of the invention as a method, the mechanism for applying the power is not believed to be critical.</p> |
| <p>identifying defective ones of said plurality of active laser devices; and</p>   | <p>(claim 11 -- probing the active devices and blowing a fuse associated with a failed active device)</p>   | <p>New claim 30 was still further amended to further include the limitations of original claim 11 which too narrowly stated that the devices were probed and a fuse was blown. A broader but consistent statement is to say that the defective devices were identified.</p>   |

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| completely removing said insulating layer and said temporary interconnect layer.  | (claims 13 and 15 -- removing said insulator layer and said conductive interconnect layer)         | New claim 30 was still further amended to include the step that the insulating layer and the interconnect layer are removed. This is again another narrowing amendment that adds dependent subject matter from the previously elected claims. |
| 31. The method of claim 30 wherein said step of depositing said interconnect layer further comprises the step of <b>processing said interconnect layer to form one or more common contact traces</b> , wherein said one or more contact traces <b>electrically couple together said first electrodes</b> of said at least two of said plurality of active | (claim 4, 6 - <b>forming common contact traces to electrically couple the first electrodes</b> )   | The additional dependent claims 31-34 capture the dependent subject matter of original dependent claims 4, 5, 6, 8 and 10. However, the spirit and scope of the invention are the same.   |
| 32. The method of claim 31 wherein said step of <b>processing further comprises forming a resistor</b> between said one or more contact traces and said first electrodes.   | (claim 5 - <b>forming a resistor</b> between said common contact traces and said first electrode.) |   |
| 33. The method of claim 32 wherein said step of forming said resistor comprises <b>forming a resistive bridge</b> .   | (claim 8 - <b>forming a resistive bridge</b> )   |   |
| 34. The method of claim 31 wherein said step of processing further comprises <b>forming a fuse</b> between said one or more contact traces and said first electrodes.   | (claim 10 - <b>forming a fuse</b> )  |   |

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In short, claim 30 is believed to be entirely consistent with the subject matter as originally elected. Each of the limitations as recited in original claim 1 can be found in new claim 30.

The Examiner specifically pointed out that the newly added claims did not include a limitation for forming a conductive interconnect layer. However, the Applicant has identified above that the new claim does in fact include this limitation. Further, the Examiner pointed out that there is no pending language pertaining to coupling to a test apparatus and simultaneously applying power. While the language "test apparatus" is not found in the new claims, the equivalent method language of "applying a predetermined power" is clearly identified above. In the context of the subject matter as a "method", the use of a "test apparatus" to apply the power is not believed to be the critical limitation.

If the Examiner considers the "coupling to a test apparatus" as a critical feature for classification of the method, then the Applicant will add the extraneous language back into the claim. However, it is not believed to add anything to the "patentable" methodology of depositing the "temporary" insulating and interconnect layers, applying the power to "burn" the devices, identifying the defective devices and then removing the interconnect and insulting layers.

The limitations as previously found in the dependent claims were added to claims 30-34 for clarity of the claimed subject matter as well as to define over the prior art.

Accordingly, new claims 30-34 are now believed to be in condition for further Examination on the merits.

Allowance of claims 30-34 is respectfully solicited.

The Examiner is invited to telephone Applicants counsel in the event there are any further questions regarding the scope of the subject matter claimed in claim 30 as opposed to original claim 1.

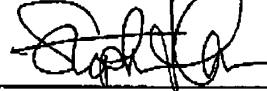
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PTO is authorized to charge any additional fees incurred as a result of the filing hereof  
or credit any overpayment to our account #02-0900.

Respectfully submitted,



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